ABSTRACT

An optical disk device is provided that can realize favorable recording/reproduction of signals on/from an optical disk having a plurality of

5   signal planes arranged in proximity to each other.   In this optical disk device, a hologram (4) is divided into n (n ≥ 2) regions Ak (k = 1, 2, ..., n) by a straight line that intersects with an optical axis, and a photodetector (7) is divided into at least two regions A and A'.   Light emitted from a light source (1) is focused on a signal plane (6a) or (6b) included in a plurality of signal planes of

10   the optical disk by an objective lens (5).   Light reflected from a first signal plane (6a) and light reflected from a second signal plane (6b) pass through the objective lens (5) to turn into light beams a and a', respectively, that enter the hologram (4).   1st-order diffracted light beams ak and ak' having a common diffraction optical axis are derived from the light beams a and a' that

15   have entered the regions Ak of the hologram (4), respectively, and are projected on the photodetector (7).   Distributions of the 1st-order diffracted light beams ak and ak' on the photodetector (7) are approximately inverted with respect to an intersection point of the diffraction optical axis and a detection plane.   The 1st-order diffracted light beam ak is approximately

20   within the region A and the 1st-order diffracted light beam ak' is approximately within the region A'.